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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,799	06/18/2003	Kuo Lung Lei	68,700-015	6228

7590 11/16/2004  
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EXAMINER

WEISS, HOWARD

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/600,799	<b>Applicant(s)</b> LEI, KUO LUNG	
	<b>Examiner</b> Howard Weiss	<b>Art Unit</b> 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Attorney's Docket Number: 68,700-015

Filing Date: 6/18/03

Continuing Data: none

Claimed Foreign Priority Date: none

Applicant(s): Lei

Examiner: Howard Weiss

***Election/Restrictions***

1. Applicant's election with traverse of the Group II invention, Claims 1 to 9 and 12 to 16, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Objections***

2. Claim 1 recites the limitation "the chip" in Line 4. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 to 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In Step C of Claim 1, it is unclear which of the active areas on the chip "the active chip area" is referring.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. Patent Application No. 2003/0104651).

Kim et al. show all aspects of the instant invention (e.g. Figure 6) including:

- providing a plurality of chip portions **4** on a semiconductor wafer **20**
- providing a cap **17** covering the active areas on said chip portions
- applying a metalization **6** on one face of said cap
- forming a continuous solder bead **7** on the face of the cap with the metalization using an electroplating process step (Paragraph **[0041]**)
- assembling the cap and the chip with the solder bead positioned between and contacting the metalization layer and the area the chip surrounding the active chip area
- melting the solder bead to form a continuous, hermetic seal around the active chip area between the cap and the chip

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 4, 6, 7, 12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. and Lin et al. (U.S. Patent Application No. 2003/0230798).

Kim et al. show most aspects of the instant invention (Paragraph 6) except for the electroplating step using a mask and cutting the wafer into individual die. Lin et al. teach (e.g. Figures 15 and 16 and Paragraphs [0099] to [0109]) teach to use a mask during electroplating solder and to cut the wafer into individual die to lower cost (Paragraph [100]). It would have been obvious to a person of ordinary skill in the art at the time of invention to use a mask during electroplating solder and to cut the wafer into individual die as taught by Lin et al. in the process of Kim et al. to lower cost.

9. Claims 8, 9, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. and Lin et al., as applied to Claims 1 and 12 above, and further in view of Cho (U.S. Patent No. 5,837,562).

Kim et al. and Lin et al. show most aspects of the instant invention (Paragraph 8) except for the use of spacers. Cho teaches (e.g. Figure 9) to use a spacer 14" to seal the device (Column 5 Lines 11 to 21). It would have been obvious to a person of ordinary skill in the art at the time of invention to use a spacer as taught by Cho in the process of Kim et al. and Lin et al. to seal the device.

### **Conclusion**

10. Paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this

policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

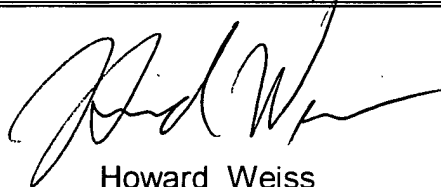
11. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2814 Fax Center number is **(703) 872-9306**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard Weiss at **(571) 272-1720** and between the hours of 8:00 AM to 4:00 PM (Eastern Standard Time) Monday through Friday or by e-mail via **Howard.Weiss@uspto.gov**.

13. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass(es): 438/ 51, 119	11/10/04
Other Documentation: PLUS Analysis Report	11/5/04
Electronic Database(s): EAST	11/10/04

HW/hw  
12 November 2004

  
Howard Weiss  
Examiner  
Art Unit 2814